

Robotics and Computer Integrated Manufacturing

Volume 16 (2000)
Volume Contents and Author Index



Pergamon

Robotics and Computer Integrated Manufacturing

An international journal of manufacturing and product and process development

MANUFACTURING

Emphasis is on disseminating the application of research to the development of new or improved industrially-relevant manufacturing technologies and strategies whose initial feasibility has been demonstrated either in a real manufacturing enterprise or experimentally in a laboratory.

Case-studies describing technology transfer and deployment from research institutions to industry or the implementation and scale-up of new technologies in industry, are especially encouraged.

Original papers are welcomed in the areas of rapid-response manufacturing, global manufacturing, flexible automation, mechatronics, computer-controlled machinery and processes, micromechanical systems, robotics, rapid prototyping, concurrent engineering and other fields involving unique manufacturing techniques.

PRODUCT AND PROCESS DEVELOPMENT

Product and Process Development is an outlet for creative research and development ideas in integrated products and process development.

Papers are welcomed in the broad areas of integrated product and process development, enterprise integration, life cycle engineering, global manufacturing, green products, recycling issues, rapid modelling, analysis and decision-making methodologies, quality, reliability and durability engineering, collaborative environments, integration of CAD/CAM/CAE and product information tools, information modelling, representation schemes and data models, knowledge based engineering, materials engineering, Internet and virtual team environments, multi-objective optimization and fuzzy mathematics and system integration issues for collaborative design. In addition *Process and Product Development* covers topics which have traditionally been considered beyond the scope of the product development process. These topics include the people involved, information infrastructure, management and control systems, engineering issues, business issues, and the tools to support the product development process.

Both sections publish editorials, state-of-the art reviews, letters to the Editor and occasional special issues on topics of current interest.

CONTENTS OF VOLUME 16

Number 1

MANUFACTURING

- | | | |
|---|----|---|
| M. Abderrahim and
A. R. Whittaker | 1 | Kinematic model identification of industrial manipulators |
| Y.-M. Chen and Y.-D. Jan | 9 | Enabling allied concurrent engineering through distributed engineering information management |
| J. N. Pires and
J. M. G. Sá da Costa | 29 | Object-oriented and distributed approach for programming robotic manufacturing cells |

PRODUCT AND PROCESS DEVELOPMENT

- | | | |
|---|----|---|
| T. C. Kuo | 43 | Disassembly sequence and cost analysis for electromechanical products |
| D. C. Montgomery, J. B. Keats,
L. A. Perry, J. R. Thompson
and W. S. Messina | 55 | Using statistically designed experiments for process development and improvement: an application in electronics manufacturing |
| N. Senin, R. Groppetti
and D. R. Wallace | 65 | Concurrent assembly planning with genetic algorithms |

Numbers 2-3

MANUFACTURING

- | | | |
|---|-----|--|
| R. Mattone, G. Campagiorni
and F. Galati | 73 | Sorting of items on a moving conveyor belt. Part 1: a technique for detecting and classifying objects |
| R. Mattone, M. Divona
and A. Wolf | 81 | Sorting of items on a moving conveyor belt. Part 2: performance evaluation and optimization of pick-and-place operations |
| Y. F. Li, J. Ho and N. Li | 91 | Development of a physically behaved robot work cell in virtual reality for task teaching |
| C.-L. Chang, C.-C. Wei
and C.-B. Chen | 103 | Concurrent maximization of process tolerances using grey theory |
| J.-F. Liu and K. Abdel-Malek | 109 | Robust control of planar dual-arm cooperative manipulators |
| R. P. Baker and P. G. Maropoulos | 121 | An architecture for the vertical integration of tooling considerations from design to process planning |

- | | | |
|--|-----|--|
| J. P. Son, J. H. Park and Y. Z. Cho | 133 | An integrated knowledge representation scheme and query processing mechanism for fault diagnosis in heterogeneous manufacturing environments |
| W. J. Zhang, S. N. Liu and Q. Li | 143 | Data/knowledge representation of modular robot and its working environment |
| L.-C. Chen and G. C. I. Lin | 161 | Reverse engineering in the design of turbine blades – a case study in applying the MAMDP |

PRODUCT AND PROCESS DEVELOPMENT

- | | | |
|--|-----|--|
| G. Q. Huang and K. L. Mak | 169 | WeBid: a web-based framework to support early supplier involvement in new product development |
| D. Thompson, A. Banerjee, P. Banerjee, T. DeFanti and S. Retterer | 181 | Tele-immersive product evaluation: a review and an implementation framework |
| R. W. Brennan | 191 | Performance comparison and analysis of reactive and planning-based control architectures for manufacturing |

Number 4

MANUFACTURING

- | | | |
|--|-----|--|
| K.H. Lee and H.-p. Park | 201 | Automated inspection planning of free-form shape parts by laser scanning |
| M. Hashemipour, D. Z. Deniz and C. Topuz | 211 | Computer-supported information requirement analysis tool based on novel methodology for analysing CIM information requirements |
| L. Castillo, J. Fdez-Olivares and A. González | 225 | Intelligent planning of Graft charts |
| Z. Hua and P. Banerjee | 241 | A model for line capacity design for PWB assembly systems |
| H. Paris and D. Brissaud | 259 | Modelling for process planning: the links between process planning entities |

PRODUCT AND PROCESS DEVELOPMENT

- | | | |
|--|-----|---|
| G. Chryssolouris, D. Mavrikios, D. Fragos and V. Karabatsou | 267 | A virtual reality-based experimentation environment for the verification of human-related factors in assembly processes |
| W. van Holland and W. F. Bronsvort | 277 | Assembly features in modeling and planning |

Number 5

MANUFACTURING

- | | | |
|---|-----|---|
| K. K. Tan, S. Y. Lim, T. H. Lee and H. Dou | 295 | High-precision control of linear actuators incorporating acceleration sensing |
|---|-----|---|

- | | | |
|--|-----|---|
| W. L. Xu and J. D. Han | 307 | Joint acceleration feedback control for robots: analysis, sensing and experiments |
| F. Ly, A. K. A. Toguyeni and E. Craye | 321 | Indirect predictive monitoring in flexible manufacturing systems |
| Y.-H. Yao and A. J. C. Trappey | 339 | ISO10303 compatible data model and its applications for PC configuration management |
| K. Park, H. Chung and J. G. Lee | 353 | Point stabilization of mobile robots via state-space exact feedback linearization |
| K. Abdel-Malek, H.-J. Yeh and S. Othman | 365 | Interior and exterior boundaries to the workspace of mechanical manipulators |

PRODUCT AND PROCESS DEVELOPMENT

- | | | |
|---|-----|---|
| A. Heredia-Langner, E. N. Loreda, D. C. Montgomery and A. H. Griffin | 377 | Optimization of a bonded leads process using statistically designed experiments |
| J. Sun, D. K. Kalenchuk, D. Xue and P. Gu | 383 | Design candidate identification using neural network-based fuzzy reasoning |

Number 6

MANUFACTURING

- | | | |
|---|-----|--|
| G. Xiong and T. R. Nyberg | 397 | Push/pull production plan and schedule used in modern refinery CIMS |
| F. Klocke, M. Fallböhmer, A. Kopner and G. Trommer | 411 | Methods and tools supporting modular process design |
| G. Vosniakos and P. Papapanagiotou | 425 | Multiple tool path planning for NC machining of convex pockets without islands |
| C. Lindsay, G. Bright and M. Hippner | 437 | Advanced material handling system for computer integrated manufacturing |
| M. Starbek and J. Grum | 443 | Operation lead time control |
| G. Dini and F. Failli | 451 | Planning grasps for industrial robotized applications using neural networks |

PRODUCT AND PROCESS DEVELOPMENT

- | | | |
|---|-----|---|
| S. Jónsdóttir, J. Vesterager and T. Børresen | 465 | Development of a product model for specifying new lines of seafood products |
| | 475 | First Announcement and Call for Papers |

